Supreme Court No. 94559-4

Court of Appeals No. 48018-2-II

SUPREME COURT OF THE STATE OF WASHINGTON

MICHAEL GILMORE, a single man,

Plaintiff-Petitioner

vs.

JEFFERSON COUNTY PUBLIC TRANSPORTATION BENEFIT AREA, d/b/a Jefferson Transit Authority, a municipal corporation,

Defendant-Respondent

Appeal from the Superior Court of Jefferson County

Case No. 10-2-00390-7

COA No. 48018-2-II

AMICUS CURIAE MEMORANDUM OF DR. BRIAN CHAN, DR. MICHAEL CHAN AND PROF. MICHAEL FREEMAN IN SUPPORT OF PETITION FOR REVIEW

Samuel John Elder, WSBA No. 26085
Civil litigator in Washington State
Law Office of Sam Elder PLLC
12716 NE 106th Ln
Kirkland, WA 98033-4652
(425)999-8170
Sam@SamElderLaw.com

Table of Contents

Attachments

Cases Cited

I. IDENTITY AND INTEREST OF AMICUS CURIAE

Pursuant to RAP 13.4(h) and RAP 10.3(e), those submitting the amicus curiae describes their interest in this case as follows: Drs. Brian and Michael Chan are chiropractic physicians, members of the Washington State Chiropractic Association, and both active in the Washington State health care community.

Prof. Michael Freeman is a doctor of medicine and epidemiologist who practices in the area of forensic medicine and forensic epidemiology. Dr. Freeman has published more than 190 scientific papers, abstracts, book chapters and books on topics that include traffic crash injuries, crash reconstruction, injury causation and injury biomechanics, including a number of papers and textbook chapters on the uses and misuses of biomechanics as a means of assessing causation in a legal setting.

As experts in their respective fields and advocates for their patients and the scientific community, these doctors have a direct interest in protecting a trial court's discretion to exclude Dr. Allan Tencer's testimony when he has used biomechanical evidence as a back-door to dispute medical causation. Such testimony does generalized harm to their chosen field of study, by allowing the defense the opportunity to argue

that there is a scientifically valid reason to dispute causation opinions provided by treating physicians.

II. STATEMENT OF THE CASE

The Doctors submitting this memorandum adopt the facts set out in Gilmore's petition for Review and Appellate briefing. In support of this memorandum, the following facts are relevant:

Gilmore was injured when he was rear-ended by a bus while he was on the job. RP 650. His injuries were mostly confined to his neck, and he ultimately needed multi-level neck fusion surgery, where his surgeon implanted permanent surgical fusion hardware. RP 650.

Defendant admitted liability, but denied the nature and extent of Gilmore's injuries. CP 255. The trial court excluded testimony from the defendant's biomechanical engineer, Dr. Allan Tencer.

The Division II Court of Appeals found that the trial court used the wrong legal standard in excluding Tencer's testimony, and that Tencer's testimony regarding the forces operating on Gilmore were based on "fundamental engineering principles," and "a type reasonably relied on by experts in his field in forming opinions on the subject." Based on this

reasoning, the court found exclusion of Tencer's testimony constituted reversible error.

III. ARGUMENT

A. The Court should take into account the factors for exclusion of biomechanical testimony laid out in Stedman v. Cooper.

Division 1 previously upheld the trial court's discretion to exclude biomechanical testimony such as the testimony of Dr. Tencer in *Stedman v. Cooper*. 292 P.3d 764, 767-769 (Div I, 2012). In reaching its conclusion, the Stedman court looked at six factors that can be considered by the trial court in exercising its discretion: (1) whether the sample size of studies was too small to create a statistically significant inference, (2) whether the experiments were conducted under the same or similar circumstances as the accident scene, (3) whether the testimony is based on dissimilar tests and contained too many disregarded variables, (4) whether a threshold force level was established below which a person probably could not be injured in a specific accident, (5) whether experiments and tests designed for one purpose (designing cars) could be used for a different purpose (assessing a threshold of applied force in a rear end car accident), and (6) whether there were controls among and between the experiments with regard to a person's age, physical conditions, and

position of the body. *Id.* Plaintiff Gilmore moved to exclude Dr. Tencer based on the Stedman factors.

The trial court then properly exercised its discretion to exclude Dr. Tencer. As support for his opinions, Dr. Tencer described experiments conducted on 36 young, healthy, and fully informed and prepared volunteers, the results of which he improperly extrapolated to the other more than 7 billion people on the planet. CP 67. All of Dr. Tencer's experiments were performed on employees of MDE Engineering, who were aware and prepared for the impending impacts. CP 67. The experiments were specifically designed to not hurt the volunteers (even though some volunteers reported symptoms after testing). CP 69, 77. Dr. Tencer admittedly uses the same approach to estimate occupant forces in a crash irrespective of whether the occupant is tall or short, heavy or light, looking forward or to the side, seated upright or reclined, and whether the impact is from the front or rear or side, and whether the seats are highly rated or poorly rated. CP 72. Dr. Tencer testifies that his calculation of the magnitude of the force on the occupant is not related to a generalized injury threshold, nor is it used to determine whether the forces would injure an individual. Dr. Tencer testified that the purpose of the testing performed on the 36 volunteers was to measure forces on the vehicle and occupant, and not to determine if injury would or would not occur. CP 71.

The trial court specifically expressed concerns that Dr. Tencer's testimony was really an attempt to suggest that no injury could occur to any individual, including the plaintiff, which was essentially medical causation testimony, even though Dr. Tencer is not licensed or trained as a health care provider. CP 67. Based on this analysis, the trial court correctly exercised its discretion to exclude Dr. Tencer.

Stedman v. Cooper is still good law, and the concurring opinion in *Johnston-Forbes* specifically states that Stedman was not overruled and that the analysis was sound. *Johnston-Forbes* 333 P.3d 388, 394 (2014). The holding in Stedman stands for the notion that a trial court *can* exclude biomechanical testimony in a specific case when the testimony is not helpful to the jury. This stands in distinction from the analysis in *Johnston-Forbes*, wherein the Court considered whether an expert has qualifications to testify. *Id.* At 393.

Division 2 ignored the Stedman analysis in overruling the trial court's decision in Gilmore. The Supreme Court should adopt the Stedman analysis and thus reverse Division 2 and affirm the trial court's discretionary ruling.

B. Excluding biomechanical testimony is consistent with prior decisions in Washington and other venues.

Many other jurisdictions recognize the trial court's ability to exclude biomechanical testimony. The record herein shows at least 9 Washington Superior Court judges have excluded defense biomechanical testimony in cases involving car crashes. See, CP 54-56, 179-80, 210-11, 231-32, plus the trial courts in *Stedman v. Cooper*, 172 Wn. App. 9, 292 P.3d 764 (2012), and in *Berryman v. Metcalf*, 177 Wn. App. 644, 312 P.3d 745 (2013). Numerous courts in other states have done the same. Some of these out-of-state cases are cited in *Stedman* at 19-20; there are also many others. Surely it cannot be said that all of these judges' decisions to exclude this type of testimony represent a position that "no reasonable person would take".

States we are aware of where defense biomechanical testimony in car crash cases has been excluded include: **Arizona**, *Yorston v. Bailey* (Ariz. Super. Ct, Maricopa County, July 31, 1997, CV 95-17659), (low-impact automobile collisions are not so specialized that jurors would be unfamiliar with them and, accordingly, the biomechanical expert should not tell the jury how they should decide the case); **California**, *Salerno v. Tudor*, 2002 WL 120608; 2002 Cal. App. Unpub. LEXIS 4411 (Cal. App. 1st Dist. 2002) (biomechanical engineer who had taught at Davis Medical

School and worked in the spine clinic at California Davis Medical Center, was not a medical doctor and therefore could not testify the rear-end crash could not have caused herniated disc); **Delaware**, *Kelly v. McHaddon*, 2001 WL 209858, 2001 Del. Super. LEXIS 60 (Del. Super. Ct. 2001) (defense biomechanical engineer with advanced degree in "medical engineering" excluded because if biomechanical engineers were permitted to testify a crash caused no injury, they would have to be permitted to testify that a crash did cause injury, and that is practicing medicine); **Florida**, *Mattek v. White*, 695 So. 2d 942, 22 Fla. L. Weekly D 1617 (Fla. Dist. Ct. App. 4th Dist. 1997) (biomechanical witness not qualified to testify that plaintiff had permanent injury from the crash - therefore not qualified to testify that plaintiff did not); **Georgia**, *Cromer v. Mulkey Enterprises, Inc.*, 254 Ga. App. 388, 562 S.E.2d 783 (2002) (biomechanical engineer Ph.D. in physics and 22-years university study of materials under different levels of stress, impact, and assault, his participation in seminars on low-speed automobile accidents, and his authoring a book on low-speed impacts and biomechanics still not qualified to testify as to injury causation); **Louisiana**, *Seegers v. State Farm Mutual Auto. Ins. Co.*, 188 So. 2d 166, 167 (La.App. 2 Cir. 1966) (holding evidence of minimal force to be "immaterial" where there is medical or lay testimony that injury occurred), doctrine re-affirmed in

Desselle v. LaFleur, 865 So. 2d 954, 959 (La. App. 3 Cir. 2004) ("The minimal force of a collision is of no material importance in determining damages."); **Texas**, *Gammill v. Jack Williams Chevrolet, Inc.*, 972 S.W.2d 713, 716 (Tex. 1998) (professor who did research in mechanics, dynamics, biomechanics, vehicle occupant kinematics, and vehicle occupant restraint systems not qualified to testify to cause of death in a car crash); **Virginia**, *Tittsworth v. Robinson*, 252 Va. 151, 475 S.E.2d 261 (1996) (trial court reversed for admitting biomechanical testimony remarkably like Dr. Tencer's testimony, because such testimony is "speculative, is founded upon assumptions lacking a sufficient factual basis, relies upon dissimilar tests, and contains too many disregarded variables."); the **U.S. 7th Circuit**, *Dhillion v. Crown Controls Coprt*, 269 F. 3d 865 (7th Cir. 2001) (testimony of biomechanical expert excluded because he did not have special expertise applicable to the issue but merely based his opinion on common sense; since jurors are qualified to apply common sense without expert guidance, the expert's testimony was excluded as not helpful to the jury); and **New Jersey**, *Suanez v. Egeland*, 353 N.J. Super. 191, 801 A.2d 1186, 1193 (2002) ("no reliable scientific foundation in bio-mechanical studies for an expert opinion that a low-impact automobile accident cannot cause a herniated lumbar disc or other serious injury" – Suarez also cited

cases from California, Georgia, Illinois, Indiana, Pennsylvania, West Virginia, and the U.S. 6th Circuit).

C. Dr. Tencer ignores real-world factors that would alter his formula, making his testimony irrelevant to the specific case and thus unhelpful to the trier of fact.

Dr. Tencer's approach fails to account for differences in circumstance that makes his conclusions unreliable. For example, his formula automatically adjusts the impact speed downward by 0.5 mph to account for braking, irrespective of whether braking occurred or not. Dr. Tencer uses the same approach for a crash victim with a height of 6'8" as he does for someone 4'8," and there is no adjustment for differences between front end, rear-end, and T-bone collisions, even though the occupant kinematics (bodily movement) and injury risk are vastly different. CP 72. Dr. Tencer's methods constitute a one-size-fits-all approach that he can provide for any case, and which is unrelated to the outcome of the crash. The approach and resulting testimony provided by Dr. Tencer can only be admitted by a court by ignoring recognized legal doctrine such as the "eggshell plaintiff" rule, now enshrined in WPI 30.18 and 30.18.01. Since all defendants take all plaintiffs as they find them, an engineer's testimony that this crash was "no big deal", whether dressed up in numbers or not, is not helpful to the jurors in answering the question they must answer: did

this particular crash cause injuries to *this particular plaintiff*?. Dr. Tencer does not even attempt to quantify the forces required to cause injury to an individual, and thus his opinion can never be relevant to the pivotal issue of a tort. Even if, at that time of the crash, Mr. Gilmore was exceptionally vulnerable to injury caused by a rear-end collision, that exceptional vulnerability is no defense to his case for damages. *Bennett v. Messick*, 76 Wn.2d 474, 457 P.2d 609 (1969).

Furthermore, it is undeniable here that Mr. Gilmore underwent multi-level neck surgery with the permanent implantation of surgical hardware. The implication of biomechanical testimony that this crash was "no big deal" would have encouraged the jurors to speculate about what other events might have caused the damage that necessitated this surgery. Medical testimony of causation of a party's injuries is inadmissible unless it is offered on a "probable" or "more likely than not" basis. It is inadmissible if the testimony is only that an even "possibly", "could have", or "might have" caused the injuries. Such testimony is inadmissible because it invites the jury to speculate about the cause of injuries. *Baxter v. Safe-way Stores*, 13 Wn. App. 229, 235 (1975); *Carpenters v. Bests Apparel*, Inc., 4 Wn. App. 439, 444, (1971). Questions and evidence encouraging such speculation are improper unless there is medical evidence that the other alleged events in fact more

probably than not did cause injury to the plaintiff. *Washington Irrigation & Development Co. v. DLI*, 106 Wn.2d 685, 692 (1986).

D. Dr. Tencer's testimony engages in advocacy rather than science.

Dr. Tencer's own research has demonstrated the contradiction in the way he uses biomechanics when doing research in an academic setting and how he testifies in low speed crash litigation for the defense. In a 2002 publication Dr. Tencer addressed the perplexing phenomenon of adult occupants sustaining femur fractures at crash speeds well below that at which femur fractures would be expected.[1] Dr. Tencer found that, although the collision did not create enough force to break someone's femur, the combined force of the collision and muscle tension was the explanation for the observed fracture, even though no injury was predicted by experimental biomechanical. The research findings disproved existing assumptions and advanced the field of biomechanical science. The prior

---

[1] Tencer AF, Kaufman R, Ryan K, Grossman DC, Henley BM, Mann F, Mock C, Rivara F, Wang S, Augenstein J, Hoyt D, Eastman B; Crash Injury Research and Engineering Network (CIREN). Femur fractures in relatively low speed frontal crashes: the possible role of muscle forces. Accid Anal Prev. 2002;34(1):1-11.
Attached as Exhibit 1

assumptions and research were never used to deny that a femur fracture had resulted from a low speed crash.

In contrast, Dr. Tencer has been studying low speed crashes for twenty years, and he has personally encountered thousands of cases of significant spine injuries resulting from such crashes. Rather than revising his approach to explain the discrepancy between predicted injury risk and observed injuries, as he did with the femur fracture research, Dr. Tencer consistently provides testimony suggesting that the injury simply could not have occurred. The approach is in contradiction to accepted practices in science generally, and biomechanical engineering specifically. In ignoring the overwhelming evidence that low speed crashes can and do result in clinically observed significant injury Dr. Tencer is acting as an advocate for the defense.

Another way that Dr. Tencer advocates for the defense is by inviting the jury to speculate about the nature of Gilmore's injuries by providing misleading testimony that the magnitude of force was comparable to an insignificant and non-injurious event. He compares a well understood event that results in hundreds of thousands of injuries every year in the U.S. (a rear impact collision) with a hypothetical event that *sounds* rather insignificant (backing into a barrier at low speed). Such a comparison is

not helpful and is only designed to mislead. In a similar vein, Dr. Tencer's comparisons between the forces of a low or no-damage rear impact collision that causes some degree of injury in 20-50% of the population with any "activity of daily living" is patently improper and fallacious. There is no daily activity that results in any degree of injury in even 1 in 1,000 times, yet the only reason for the comparison is for the jury to speculate that the risk of injury to Mr. Gilmore from the crash is the same that he encountered when merely sitting down. The risk of injury in rear impact collision is well established in the scientific literature, and there is no valid purpose to comparing a collision to an everyday activity other than to draw improper speculation from the jury.

IV. Conclusion

The trial court was within its discretion to exclude Dr. Tencer's testimony on the basis that it would not be helpful to the trier of fact based on those standards articulated by *Stedman v. Cooper*. Along with the limitations and fatal errors of his methods, Dr. Tencer is attempting to advocate on behalf of the defense, rather than provide the jury with objective findings regarding the most probable cause of the plaintiff's injuries. Dr. Tencer's testimony is only designed to confuse or mislead a factfinder. The undersigned, on behalf of themselves and the fields of

clinical practice, science, and medicolegal expertise in which they serve, believe this Court should grant Gilmore's appeal to overturn the decision by Division II of the Washington Court of Appeals, and clarify the relevance of those standards laid out in Stedman to all biomechanical testimony.

Respectfully submitted this 27th day of November, 2017

Samuel J. Elder, Jr., WSBA No. 26085
Law Office of Sam Elder PLLC
12716 NE 106th Ln
Kirkland, WA 98033-4652
(425)999-8170
Sam@SamElderLaw.com